

Accelerated General Chemistry
Problem Set 8
Monday, November 16, 2009 (at 4:00 p.m.)
Total Points on This Assignment = 34

1. (13 points) Problem 4.6. Please make the following assumptions:
 - All temperatures are known to three significant figures.
 - All external pressures are also known to three significant figures (that is, read “1 bar” as 1.00 bar and “4 bar” as 4.00 bar).
 - In part (b), the volume of the sample is decreased until its pressure equals that of the surroundings, namely 4.00 bar.
2. (7 points) Problem 4.10. Compute all specific heats to two significant figures.
3. (6 points) Problem 4.11. Compute all energies to two significant figures.
4. (8 points) Problem 4.17. Note that $\Delta_r U$, that is, the internal energy change per mole of reaction, is virtually identical to what we have referred to as ΔU_c in class. The only difference is that $\Delta_r U$ refers to a chemical equation balanced with a specific set of coefficients. So, for example, “the reaction as written” in part (b) involves (exactly) 2 mol of $C_8H_{18}(l)$, etc.